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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ROYSTON, ELIZABETH	
ART UNIT	PAPER NUMBER
1791	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/501,929	GRUAU ET AL.	
	Examiner	Art Unit	
	Elizabeth Royston	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *5/4/2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-17,19 and 21-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-17,19 and 21-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 14, 16, 17, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US PN 6382438 B1) in view of Magerle (US PN 3313875) and Buhler (US PN 5346659).

With regard to claim 14, Schneider teaches a method of compression molding plastic parts (col. 2, line 45-47) having a neck provided with an orifice (figure 2 and 8), comprising the steps of constructing the plastic part with a molded neck having a top wall (figure 4, lower portion of item 220; figure 5, lower portion of item 21) that comprises a thinned zone having a contour that delimits the shape of the orifice (col. 4, line 50-52; figure 4, item 210), the plastic part being constructed such that the thinned

zone is bounded by a notch (figure 4, the notch below the area of item 210) having a section in a diametric plane passing through the axis of the neck which is oriented along a direction parallel to the axis of the neck, and such that the top wall also comprises a breakoff zone in which a mechanical force can be applied to the top wall with sufficient intensity to break the top wall at the notch (col. 6, line 10-12), the application zone (figure 4, item 220) being distinct from the thinned zone (figure 4, item 210), the plastic part further being constructed such that the top wall also includes two zones that can resist the mechanical force (col. 4, line 52-54), one of the zones being designed to transmit the mechanical force (figure 4, item 221) and the other of the zones acting as a support (figure 4, item 206), and applying the mechanical force to the application zone sufficient to cause a break to occur at the notch and detach at least part of the top wall (col. 5, line 20-28; col. 6, line 10-12), thereby opening up the orifice (col. 5, line 29-32).

Although Schneider does not explicitly detail the construction of the compression tool, since Schneider teaches compression molds as imposing the forms described (col. 2, line 47; col. 5, line 43-45), the compression tool in the teaching of Schneider would intrinsically have been designed to produce the molded product in the teaching of Schneider.

Schneider does not explicitly disclose the details of the compression molding method.

Magerle teaches a method of compression molding plastic parts having a neck provided with an orifice (col. 2, line 60-64) comprising the steps of bringing the blank to an appropriate temperature (col. 1, line 26-28), and then placing the blank in an air gap

between at least two moving parts of a compression molding tool (col. 1, line 28-30; col. 4, line 18-22; figure 3, item 78) and brining the at least two moving parts towards each other to compress the blank (col. 4, line 27-30), the plastic material of the blank being caused thereby the flow so as to fill the cavities in the moving parts until the moving parts stop moving relative to each other (the transition between figures 3, 6, and 7), the cavities once brought towards each other defining a volume of the part with a neck (figure 7, item 102), and opening the molding tool by the relative displacement of the moving parts (col. 6, line 61-62).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the method in the teaching of Magerle as the method of compression molding in the teaching of Schneider. The rationale to do so would have been the motivation provided by the teaching of Magerle, that to use such a method predictably results in the formation of plastic parts having a neck (col. 2, line 62-64) provided with an orifice such as tubes and caps (col. 1, line 15-21).

Although Schneider teaches manual removal of the cap after molding with a reasonable expectation for an applied axial thrust (col. 6, line 10-12), Schneider does not explicitly disclose continuously moving tools in the molding process, and therefore applying the axial thrust using such continuously moving tools.

Buhler teaches a molding method using continuously moving tools for manufacturing plastic parts having a neck provided with an orifice (col. 1, line 11-14), where the molding tool is constructed such that one wall also includes two zones that can resist the mechanical force, one of the zones being designed to transmit the

mechanical force (figure 4, items 26 and 27; col. 4, line 15-27) and the other of the zone (item 12) acting as a support (the firm connection between molding core 12 and molded body 20 that requires stripping plate 38 to separate), and opening the molding tool by relative displacement of the moving parts (col. 4, line 15-16), and applying the mechanical force to the application zone sufficient to cause a break to occur at the notch and detach at a wall of the wall, said wall being severed after molding (col. 4, line 19-24) and removed by applying an axial thrust (col. 4, line 19-27), thereby opening up the orifice.

Although Buhler teaches a different orientation for the mold than the orientation claimed by applicant, it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the orientation of the mold in the teaching of Buhler for a desired apparatus configuration.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the continuously moving tools in the teaching of Buhler in the compression molding method in the teaching of Schneider. The rationale to do so would have been the motivation provided by the teaching of Buhler, that to use such a mold that requires continuously moving tools predictably results in the formation of a smooth neck region (col. 4, line 43-45) without structurally weakening weld lines (col. 4, line 3-7).

With regard to claim 16, Schneider is silent as to the angle of the V or the angle of the bisecting line. However, it would have been obvious to one of ordinary skill in the

art at the time of the invention to optimize the angle of the V and the bisecting angle for the ease of tearing in the breakoff zone.

With regard to claim 17, Schneider teaches a top wall (figure 4, lower portion of item 220) comprising a transverse wall (figure 4, bottom surface of item 220) and a stick having an end at which a force can be applied laterally to cause breakage of the breakoff zone (figure 4, area of item 230 and upper portion of item 220).

With regard to claim 19, Schneider teaches a top wall comprising a transverse wall (figure 4, bottom surface of item 220) acting as a shutter and a protuberance with a T-shaped profile (figure 4, item 230 demonstrates the "arms" and item 220 demonstrates the "stem" of the T-shape), forming a ring groove on an outer surface thereof (figure 4, grooves around item 210), with relative displacement causing tearing off and then removal of the shutter (col. 6, line 10-12).

Although Schneider does not explicitly disclose prongs of a fork of rail may be engaged, the structure of top wall in the teaching of Schneider is intrinsically capable of being engaged with the prongs of a fork or a rail.

With regard to claim 21, Schneider does not explicitly disclose the details of the compression molding tool.

Magerle teaches the parts of the compression molding tool are also moved by a continuous movement orthogonal to the direction along which the parts move toward each other (col. 4, line 27-30; figure 7, item 66, 68).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the method in the teaching of Magerle as the method of compression molding in the teaching of Schneider. The rationale to do so would have been the motivation provided by the teaching of Magerle, that to use such a method predictably results in the formation of plastic parts having a neck (col. 2, line 62-64) provided with an orifice such as tubes and caps (col. 1, line 15-21).

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US PN 6382438 B1) in view of Magerle (US PN 3313875) and Buhler (US PN 5346659), as applied for claims 14, 16, 17, 19, and 21 above, and in further view of Hwang (US PGPub 2003/0039717 A1).

With regard to claim 15, Schneider in view of Magerle and Buhler is silent as to the temperature of breakoff. However, since Schneider in view of Magerle and Buhler teaches breakoff in the mold and immediately following molding (Buhler, col. 4, line 15-21), it would have been obvious to one of ordinary skill in the art at the time of the invention to break the plastic part as soon as the temperature of the plastic material becomes close to a vitreous transition temperature at the breakoff zone. The rationale to do so would have been the motivation provided by the teaching of Hwang that to break a plastic at a temperature at the transition between the solid and the molten

materials predictably results in the formation of a clean break at the interface (paragraph 37, line 21-26).

5. Claims 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US PN 6382438 B1) in view of Magerle (US PN 3313875) and Buhler (US PN 5346659), as applied for claims 14, 16, 17, 19, and 21 above, and in further view of Axelrad (US PN 2714226) and Toulmin (US PN 2994297).

With regard to claims 22 and 23, Schneider in view of Magerle and Buhler does not explicitly disclose elastomeric or plastic dies, forming a breakoff zone shaped by a moving part forming a toroidal edge, or metallic second moving parts.

Axelrad teaches that it was known in the art at the time of the invention to use elastomeric dies in molding processes (col. 1, lin3 39-41) to create shapes in plastic materials. Axelrad further teaches an apparatus where the mold on one side is an elastomer (col. 2, line 13-18; figure 1, item 16), and the corresponding face is of a material of suitable construction for heating plastic material as is "well known" (col. 2, line 31-34). Although Axelrad does not explicitly disclose that "well known" materials are metallic, since Axelrad teaches the concept of metal platens (col. 1, line 43; col. 1, line 67-69) and since the material of the corresponding face would be required to withstand the high temperatures and pressures of injecting melted plastics, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the corresponding face (platen) of a metallic component.

Axelrad further teaches that the elastomeric molds are specifically designed (col. 1, line 34-37; 46-49) for manufacturing components with shapes (figure 1, item 18). It would have been obvious to one of ordinary skill in the art at the time of the invention to use an elastomeric mold as in the teaching of Axelrad to mold the toroidal groove in the teaching of Schneider in view of Magerle and Buhler. The rationale to do so would have been the motivation provided by the teaching of Axelrad, that to use an elastomeric mold predictably results in the formation of molded good quality complex shapes (col. 3, line 63-68) at lower costs than with a metal die (col. 1, line 22-28).

Schneider in view of Magerle and Buhler does not explicitly disclose plastic dies.

Toulmin teaches that it was known in the art at the time of the invention to use plastic dies (col. 1, line 17-18).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a plastic die as the die in the teaching of Schneider in view of Magerle and Buhler. The rationale to do so would have been the motivation provided by the teaching of Toulmin, that plastic dies are predictably low cost dies as compared to metal dies (col. 1, line 14-16).

With regard to claim 24, Schneider in view of Magerle and Buhler does not explicitly disclose the details of the compression molding tool.

Magerle teaches a first moving part comprising a cavity produced with a stopper to close off the orifice (figure 6, item 70, 72), the stopper being positioned such that an inner surface thereof acts partially as a molding cavity for shaping the neck (col. 6, line

38-40; figure 7, item 70, 72), at least in the breakoff zone as would be the case in the teaching of Schneider in view of Magerle.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the method in the teaching of Magerle as the method of compression molding in the teaching of Schneider. The rationale to do so would have been the motivation provided by the teaching of Magerle, that to use such a method predictably results in the formation of plastic parts having a neck (col. 2, line 62-64) provided with an orifice such as tubes and caps (col. 1, line 15-21).

With regard to claims 25 and 26, Schneider in view of Magerle and Buhler does not explicitly disclose the breakoff zone is shaped using a part of the moving stopper which forms a toroidal edge; however, it would have been obvious to one of ordinary skill in the art at the time of the invention that if a groove as in the teaching of Schneider in view of Magerle and Buhler was desired on the top of the neck, to use a mold with the inverse shape of the desired groove.

Response to Arguments

6. Applicant's arguments with respect to claims 14-17, 19, 21-26 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's arguments filed 5/4/2010 have been fully considered but they are not persuasive.

With regard to applicant's argument that the purpose of Schneider would be defeated by removal of the cap during the molding process, the Examiner respectfully disagrees. Schneider specifically teaches a cap designed to be removed with the application of a force in order to obtain an open neck to a bottle. Since the ability to create the opening under an applied force is a primary purpose for the shape and design in the neck region of the compression molded bottle in the teaching of Schneider (col. 2, line 35-36), the Examiner disagrees that the creation of the opening in Schneider is incompatible with the molding process if the creation of such an opening under an applied force is desired during the molding process, such as the method using continuously moving tools in the teaching of Buhler.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Royston whose telephone number is 571-270-7654. The examiner can normally be reached on M-Th 8:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. R./
Examiner, Art Unit 1791

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1791